

REMARKS

This application is rejected under 35 U.S.C. § 112, first paragraph, for the reasons noted in the official action. The inadequate written description rejection is acknowledged and respectfully traversed in view of the following remarks.

The present application relates to a method of controlling relative rotation or non-rotation between two elements in a transmission such as first and second sections of a shaft, a shaft and a gear, two gears, a shaft and a housing, and a gear and a housing, for example. The first of such elements is referred to in the specification as the first half shifting element 4 while the second mating element is referred to in the specification as the second half shifting element 5.

In one application, the system can be used as a clutch for synchronizing the first and second mating shifting elements 4 and 5 with one another. For example, the first shifting element 4 may be rotating at a first rate of speed while the mating second shifting element 5 may be rotating at a second rate of speed. First, the common actuator 8 initiates engagement of the frictional engaged element 2 so as to bring the first and the second shifting elements 4, 5 into a synchronous rotating state such that they both rotate at the same rate of speed. Next, upon reaching such a synchronous state, the common actuator 8 then initiates engagement of the form locking element 3 which positively locks the first and the second shifting elements 4, 5 with one another such that the first and second shifting elements 4, 5 thereafter rotate without any slip therebetween. Finally, after engagement of the form locking element 3, the common actuator 8 then disengages the frictionally engaged element 2 so that all of the drive or torque, to be transferred between the first and second shifting elements 4 and 5, is transmitted solely through the form locking element 3. When disengagement of the first shifting element 4 from the mating second shifting element 5 is required, the common actuator controls operation of the system in the reverse order. That is, the frictionally engaged element 2 is first engaged, next, the form locking element 3 is disengaged and finally the frictionally engaged element 2 is disengaged.

The method and device, according to the present invention, may also be used as a brake, that is to stop or prevent rotation one of the first and the second shifting elements 4, 5 with respect to the other, e.g., one of the first and the second shifting elements 4, 5 is permanently attached to a transmission housing, for example, while the other of the first and the second shifting elements 4, 5 is allowed to rotate, in a first mode of operation, and needs to be braked in during a second mode of operation. According to this example, in order to brake or stop rotation of the shifting element 4, for example, the common actuator 8 will first engage the frictionally engaged element 2 which will frictionally cause the rotational speed of the shifting element 4 to slow until it is substantially not rotating. Next, the common actuator 8 will engage the form locking element 3 to fixedly connecting the rotatable shifting element 4 to the fixed shifting element 5 and thus positively preventing further rotation of the shifting element 4. Finally, after engagement of the form locking element 3, the common actuator 8 will then disengage the frictionally engaged element 2 so that all of the braking from the second shifting element 5 to the first shifting element 4 is transmitted solely through the form locking element 3. When disengagement of the first shifting element 4 from the mating second shifting element 5 is required, the common actuator controls operation of the system in the reverse order. That is, the frictionally engaged element 2 is first engaged, next, the form locking element 3 is disengaged and finally the frictionally engaged element 2 is disengaged.

Fig. 5 is amended to clarify and more particularly show the common actuator 8. Specifically, the common actuator 8 is diagrammatically shown to include the function blocks 6 and 7, the form locking element 3 and the frictionally engaged element 2. Support for this drawing amendment is found in paragraphs 055-059 of the specification, for example.

Consistent with the above, the independent claims of this application are amended to include the limitation of a common actuator for actuating the frictionally engaged element 2 and the form locking element 3 which was recited in claim 18, which is now canceled. As discussed above, the common actuator or actuation system 8 is used to control engagement or disengagement of both the frictionally engaged element 2 and the form locking element 3.

Upon reviewing this application, it has come to the attention of the undersigned that all of the prior art which was timely and properly made of record in this case has not been substantively considered by the Examiner. Specifically, the Applicant prepared and timely filed an Information Disclosure Statement, along with PTO Form-1449 and copies of the necessary citations (a copy of the returned postcard, the submitted Statement and PTO Form-1449 is attached, if copies of the citations are again required, please immediately contact the undersigned), under an Express Mailing Date of January 14, 2004. The Examiner has not confirmed to the undersigned, by signing and returning a copy of PTO form-1449, that such references were substantively considered. Accordingly, the Applicant respectfully requests the Examiner consider the same at this time.

As all of this prior art was previously made of record in this case in a timely manner, it is respectfully submitted that Petition and/or an official fee is **not** necessary and the Examiner is required to substantively consider the same at this time. If any further action on the part of the Applicant is required in order for the Examiner to substantively consider this art, the Examiner is respectfully requested to contact the undersigned attorney immediately.

If any further amendment to this application is believed necessary to advance prosecution and place this case in allowable form, the Examiner is courteously solicited to contact the undersigned representative of the Applicant to discuss the same.

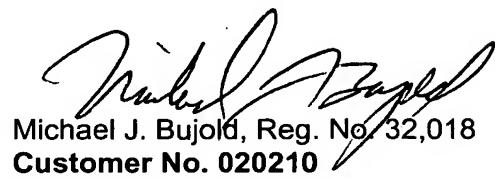
In view of the foregoing, it is respectfully submitted that the raised rejections should be withdrawn and this application is now placed in a condition for allowance. Action to that end, in the form of an early Notice of Allowance, is courteously solicited by the Applicant at this time.

The Applicant respectfully requests that any outstanding objection(s) or requirement(s), as to the form of this application, be held in abeyance until allowable subject matter is indicated for this case.

10/756,933

In the event that there are any fee deficiencies or additional fees are payable, please charge the same or credit any overpayment to our Deposit Account (Account No. 04-0213).

Respectfully submitted,



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Annotated Marked-Up Drawing



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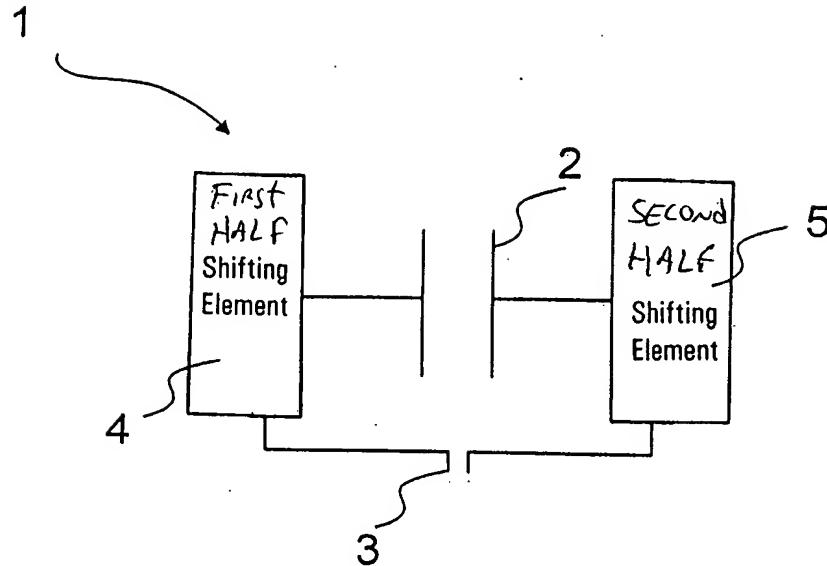


Fig. 1

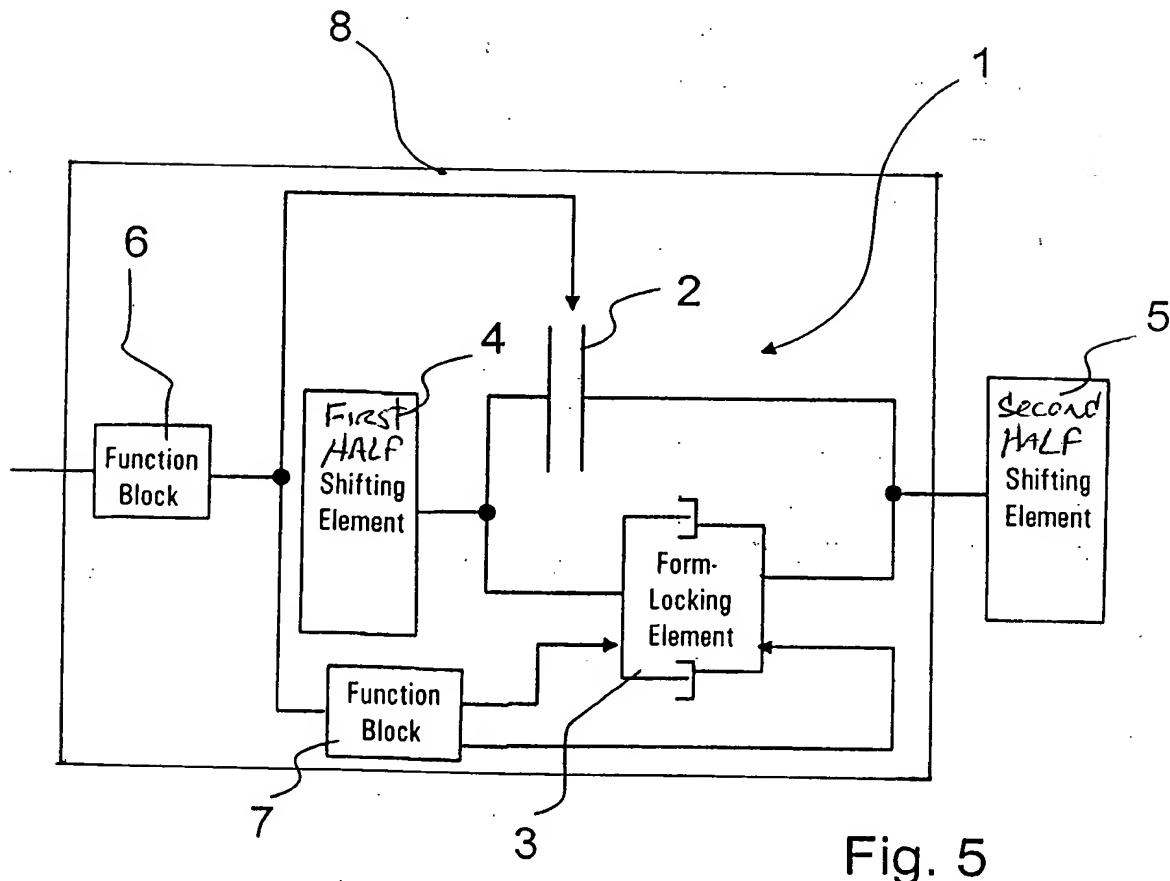


Fig. 5